

Serial No. 09/987,248
Atty. Doc. No. 2734.0442-02000

56 12
52. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

- a moving foraminous endless fabric;
- means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;
- a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;
- a transfer cylinder; and
- a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 at an overall line load of less than about 240 kN/m , and wherein said pressing unit does not include suction pressure rolls.

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253. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

- a moving foraminous endless fabric;
- means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

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a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a transfer cylinder; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 , and wherein said pressing unit does not include suction pressure rolls.

sub 2172 (Amended) An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

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means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a backing roll; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with

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said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 at an overall line load of less than about 240 kN/m , and wherein said pressing unit does not include suction pressure rolls.

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~~12~~ 13. (Amended) An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a backing roll; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 , and wherein said pressing unit does not include suction pressure rolls.

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21 85. The apparatus of claims *21* *22* ~~72~~ or ~~73~~, wherein the pressure at said nip is at least about 2500 kN/m².

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35 86. The apparatus of claims *21* *22* ~~72~~ or ~~73~~, wherein the pressure at said nip is at least about 3000 kN/m².

26 87. The apparatus of claims *21* *22* ~~72~~ or ~~73~~, wherein the pressure at said nip is at least about 3150 kN/m².

Please add the following new claims:

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31 88. An apparatus for forming an absorbent paper sheet product comprising:
a moving foraminous endless fabric;
means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;
a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about 1500 cm³/m²;
a transfer cylinder; and
a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer

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cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m² at an overall line load of less than about 240 kN/m, and wherein said pressing unit comprises at least one hydraulic engagement member.

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89. An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about 1500 cm³/m²;

a transfer cylinder; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m², and wherein said pressing unit comprises at least one hydraulic engagement member.

31 38
89. The apparatus of claims 31 or 38, wherein said at least one hydraulic engagement member has a length of less than about 3 inches.

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91. The apparatus of claim 90, wherein said at least one hydraulic engagement member has a length of less than about 2 inches.

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92. An apparatus for forming an absorbent paper sheet product comprising:
a moving foraminous endless fabric;
means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;
a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;
a backing roll; and
a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 at an overall line load of less than about 240 kN/m , and wherein said pressing unit comprises at least one hydraulic engagement member.

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93. An apparatus for forming an absorbent paper sheet product comprising:
a moving foraminous endless fabric;

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means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a backing roll; and

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 , and wherein said pressing unit comprises at least one hydraulic engagement member.

94. The apparatus of claims 92 or 93, wherein said pressing unit is additionally configured to impose an asymmetrical pressure distribution upon said nascent web, said asymmetrical pressure distribution being skewed such that the pressure declines from a peak pressure to a value of 20% of said peak pressure over a nip length which is no more than about half of the nip length over which it rose to said peak pressure from 20% of said peak pressure.

95. The apparatus of claims 92 or 93, wherein said at least one hydraulic engagement member has a length of less than about 3 inches.

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64 15 44
96. The apparatus of claim 95, wherein said at least one hydraulic engagement member has a length of less than about 2 inches.

97. An apparatus for forming an absorbent paper sheet product comprising:
a moving foraminous endless fabric;
means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;
a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;
a transfer cylinder; and
a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 at an overall line load of less than about 240 kN/m , and wherein said pressing unit is configured to impose an asymmetrical pressure distribution upon said nascent web.

98. An apparatus for forming an absorbent paper sheet product comprising:
a moving foraminous endless fabric;

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means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a transfer cylinder; and

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control

a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 , and wherein said pressing unit is configured to impose an asymmetrical pressure distribution upon said nascent web.

99. The apparatus of claims 97 or 98, wherein said asymmetrical pressure distribution is skewed such that the pressure declines from a peak pressure to a value of 20% of said peak pressure over a nip length which is no more than about half of the nip length over which it rose to said peak pressure from 20% of said peak pressure.

100. An apparatus for forming an absorbent paper sheet product comprising:
a moving foraminous endless fabric;

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means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a backing roll; and

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a pressing unit engaging said pressing blanket adapted to urge said nascent web for said absorbent paper sheet on said foraminous endless fabric into engagement with said transfer cylinder thereby forming a nip between said foraminous endless fabric and said transfer cylinder, wherein no pervious member is interposed between said transfer cylinder and said foraminous endless fabric, said pressing unit being configured to create a peak engagement pressure of at least about 2000 kN/m^2 at an overall line load of less than about 240 kN/m , and wherein said pressing unit is configured to impose an asymmetrical pressure distribution upon said nascent web.

101. An apparatus for forming an absorbent paper sheet product comprising:

a moving foraminous endless fabric;

means for depositing a nascent web for said absorbent paper sheet on said foraminous endless fabric;

a moving endless pressing blanket for pressing said absorbent paper sheet on said foraminous endless fabric, said moving endless pressing blanket having a void volume of less than about $1500 \text{ cm}^3/\text{m}^2$;

a backing roll; and

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